

MWI 8730.4

REVISION B

EFFECTIVE DATE: June 15, 2000

EXPIRATION DATE: June 15, 2005

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# **MARSHALL WORK INSTRUCTION**

**QS01**

## **CONTROL AND DISPOSITION OF SCRAP HARDWARE AND MATERIAL**

CHECK THE MASTER LIST at  
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VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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### DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		5/14/99	Document converted from MSFC-P13.1-C02 to a directive. Previous history retained in system as part of canceled or superseded ISO Document files.
Revision	A	8/16/99	Changes made to reflect new MSFC reorganization.
Revision	B	6/15/00	Document updated to change MPG 1441.1 to MPG 1440.2 and MWI 4500.1 to MWI 4300.1.

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## 1. PURPOSE

The requirements outlined in this Marshall Work Instruction (MWI) are applicable to flight hardware, qualification hardware, development hardware, and flight-associated ground support equipment (GSE), including all assemblies, subassemblies, components, parts, and raw materials used therein. Reference MWI 4300.1 for the disposal of excess hardware and materials.

This MWI establishes requirements for the identification, documentation, segregation, control, and disposal of scrap hardware and raw materials. The term scrap as used in this instruction does not include obvious scrap.

## 2. APPLICABILITY

This instruction is applicable to all Marshall Space Flight Center (MSFC) organizations supplying end-items flight hardware or flight-associated GSE and qualification, development hardware.

## 3. APPLICABLE DOCUMENTS

- a. MPG 8730.3, "Control of Nonconforming Product"
- b. MWI 4300.1, "Disposal Turn-Ins/Reutilization Screening"
- c. MPG 1440.2, "MSFC Records Management Program"

## 4. REFERENCES

None

## 5. DEFINITIONS

5.1 Flight Associated Ground Support Equipment. Support equipment which has direct interface with flight hardware, including equipment used for assembly, servicing, inspection, test and checkout, handling, disassembly, and shipping operations.

5.2 Flight Hardware. All parts, components, and subassemblies assigned for flight.

5.3 Obvious Scrap. Manufacturing waste such as cutting and boring chips, small trimmings, tag ends, cured adhesives, etc., which could not, under any circumstances, be used in manufacturing operations.

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## 6. INSTRUCTIONS

6.1 Traceability. Records shall be maintained which will ensure the complete traceability of all scrap hardware and raw materials.

6.1.1 Discrepancy Record (MSFC Form 460) will be used for the dispositioning of scrap hardware and raw material; reference MPG 8730.3. MSFC Form 460 will not be closed until scrap items are disposed of as defined in this section. Dispositions for scrap items to be used for non-production purposes (shop aids, engineering evaluation, etc.) may be closed after identification has been accomplished and verified.

6.1.2 Test Preparation Sheets, MSFC Form 248, and Manufacturing Work Orders, MSFC Form 3795, will be used to move and dispose of scrap items.

6.2 Identifications Methods. All scrap hardware and raw material shall be permanently identified in such a manner as to prevent confusion with acceptable hardware and materials. The following methods are acceptable for identification of scrap hardware and raw materials. Identification must be accomplished immediately after the hardware or material is determined to be scrap, unless immediate, complete destruction of the scrap hardware or material is planned.

6.2.1 Impression Stamping. A unique stamp signifying scrap hardware or raw material may be used for identification purposes when such stamp will produce a highly visible, distinct impression in the material. Stamped identification shall be placed in conspicuous locations and shall be as large as practical. Ink stamping shall not be used for identification of scrap hardware or material.

6.2.2 Etching. Scrap hardware and raw materials may also be identified by etching the word "SCRAP" on the hardware or material. Any permanent method of etching may be used. "SCRAP" markings shall be placed in conspicuous locations and shall be as large as practical.

6.2.3 Painting. Impression stamping and etching are the preferred methods of identifying metallic scrap hardware and raw materials as scrap; painting the item with red paint is acceptable. This method is particularly suited for use on large items, nonmetallic materials, and materials which must be

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identified on the exterior packaging (liquids, powders, hazardous materials, etc.).

6.3 Storage. All scrap hardware and raw material shall be physically segregated from acceptable material, as well as from other nonconforming material awaiting disposition. Scrap items shall be stored in an enclosed, locked area. All transfers into and out of the scrap storage area shall be logged. Scrap items which are too large to be placed in the scrap storage area will be barricaded, and signs identifying the area as "restricted access scrap area" will be permanently displayed. Access to all areas identified as scrap storage will be limited to personnel authorized by the Quality Assurance Manager.

6.4 Disposal. Disposal of scrap hardware and raw material shall be accomplished as soon as possible after the decision to scrap the item has been made. Installation of scrap items into the next higher assembly and the use of scrap raw material for manufacturing operations shall be made impossible by disposal.

6.4.1 Disposal Methods. Any method of disposal (cutting, hammering, drilling, burning, etc.), which ensures that scrap hardware cannot be installed in the next higher assembly and that scrap raw material cannot be used for manufacturing operations is acceptable.

## 7. NOTES

Use of Scrap. Use of scrap items for non-production purposes (shop aids, engineering evaluation, etc.), is allowable, provided that adequate controls are established to prevent scrap usage in manufacturing operations. When these scrap items are not used on a continuing basis, the storage control requirements of Section 6, paragraph titled Storage, shall apply.

## 8. SAFETY PRECAUTIONS AND WARNING NOTES

None

## 9. RECORDS

Adequate records shall be maintained to ensure complete traceability of all scrap per MPG 1440.2.

Discrepancy Records, work orders, test preparation sheets, and custody history records of all scrap items, from the time the scrap determination is made until disposal is accomplished, shall

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be maintained in the Quality Assurance Records Center for a period of 3 years.

#### 10. PERSONNEL TRAINING AND CERTIFICATION

None

#### 11. FLOW DIAGRAM

None

#### 12. CANCELLATION

MWI 8730.4A dated August 16, 1999

Original Signed by  
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Director